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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,260	03/01/2002	Tomotaka Koketsu	1055-02	2943

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IP DEPARTMENT OF PIPER RUDNICK LLP  
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EXAMINER

BEFUMO, JENNA LEIGH

ART UNIT PAPER NUMBER

1771

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

<b>Office Action Summary</b>	<b>Application No.</b> 10/070,260	<b>Applicant(s)</b> KOKETSU ET AL.	
	<b>Examiner</b> Jenna-Leigh Befumo	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The Amendment submitted on March 31, 2004, has been entered. Claims 1, 2, and 4 – 10 have been amended. Therefore, the pending claims are 1 – 10.
2. The amendment to the claims is sufficient to overcome the objection to the claims set forth in sections 4 and 5 of the previous Office Action.
3. The objection to the specification is withdrawn since the disclosure does include a description of the drawings.
4. The applicant's arguments and the amendments are sufficient to overcome the 35 USC 112 2<sup>nd</sup> paragraph rejections set forth in sections 8 – 11 of the previous Office Action.

### ***Drawings***

5. The drawings were received on March 31, 2004. These drawings are acceptable. The objection to the drawings set forth in the previous Office Action are withdrawn.

### ***Claim Rejections - 35 USC § 112***

6. Claims 4 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. The phrase "residual entanglements" in claim 4 and "entanglements" in claim 8 is indefinite for the reasons set forth in the previous Office Action. It is still unclear what the applicant considers the definition of entanglement to be. Are the entanglements twists or tack points in the yarn or are the entanglements the places where the warp yarns are interwoven with

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the weft yarns. It is unclear what the structural limitations of the recited entanglements actually are.

***Claim Rejections - 35 USC § 103***

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1 – 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fastenau et al. (6,037,047).

The features of Fastenau et al. have been set forth in the previous Office Action. While Fastenau et al. fails to explicitly state the amount of residual oil on the yarns in the woven fabric it is well known in the textile art that some amount of finish or oil is applied to the yarns for processing to prevent snags, breaks, and entanglements from being produced during fabric formation. This finish is usually removed after the fabric has been produced so that the finish doesn't interfere with any further chemical treatments or leave the fabric feeling greasy or slick. Since Fastenau et al. fails to mention the amount of finish on the woven airbag fabric it would have been obvious to one of ordinary skill in the art to remove any finish or oil so that there is at most 0.1% by weight so that the finish does not interfere with any other chemical treatments applied to the fabric and the finished fabric isn't overly slick or greasy. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the claimed amount of oil residue, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Without a teaching from Fastenau et al. to have a high residual oil content on the finished fabric one of

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ordinary skill in the art would remove the finish or oil applied for processing from the finished product. Therefore, claim 5 is also rejected.

Additionally, while Fastenau et al. discloses using polyamide filaments, Fastenau et al. fails to teach the viscosity of the polyamide material relative to sulfuric acid. However, it would have been obvious to one of ordinary skill in the art to choose the claimed viscosity since one of ordinary skill in the art would be motivated to choose a polyamide which has a viscosity such that the polymer will easily be processed during extrusion to form the desired meltspun fibers. Thus, it would only involve routine skill in the art to choose the viscosity of the polymer and it would have been obvious to one of ordinary skill in the art to optimize the viscosity of the polymer so that the extrusion process is efficient producing the continuous filaments without an excessive number of breaks during extrusion. Thus, claim 6 is also rejected.

10. Claims 1 – 3, 5 – 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 07-252740 A.

The features of JP 07-252740 A have been set forth in the previous Office Action. Claim 10 is now rejected over JP 07-252740 A since the claim includes all the limitations of claim 1 and claim 7.

While JP 07-252740 A fails to explicitly state the amount of residual oil on the yarns in the woven fabric it is well known in the textile art that some amount of finish or oil is applied to the yarns for processing to prevent snags, breaks, and entanglements from being produced during fabric formation. This finish is usually removed after the fabric has been produced so that the finish doesn't interfere with any further chemical treatments or leave the fabric feeling greasy or slick. Since JP 07-252740 A fails to mention the amount of finish on the woven airbag fabric it

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would have been obvious to one of ordinary skill in the art to remove any finish or oil so that there is at most 0.1% by weight so that the finish does not interfere with any other chemical treatments applied to the fabric and the finished fabric isn't overly slick or greasy. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the claimed amount of oil residue, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Without a teaching from JP 07-252740 A to have a high residual oil content on the finished fabric one of ordinary skill in the art would remove the finish or oil applied for processing from the finished product. Therefore, claim 5 is also rejected.

Additionally, while JP 07-252740 A discloses using polyamide filaments, JP 07-252740 A fails to teach the viscosity of the polyamide material relative to sulfuric acid. However, it would have been obvious to one of ordinary skill in the art to choose the claimed viscosity since one of ordinary skill in the art would be motivated to choose a polyamide which has a viscosity such that the polymer will easily be processed during extrusion to form the desired meltspun fibers. Thus, it would only involve routine skill in the art to choose the viscosity of the polymer and it would have been obvious to one of ordinary skill in the art to optimize the viscosity of the polymer so that the extrusion process is efficient producing the continuous filaments without an excessive number of breaks during extrusion. Thus, claims 6 and 9 are also rejected.

11. Claims 7 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Aneja (5,626,961) for the reasons of record.

***Response to Arguments***



12. Applicant's arguments filed March 31, 2004 have been fully considered but they are not persuasive. The Applicant argues that Fastenau et al. does not teach the claimed invention because the fibers are diamond shaped and therefore would not read on the claimed flat fibers (response, pages 8 – 9). However, the claim defines the shape of the fiber by stating that the fiber has a “flattened” cross section which has an aspect ratio of between 1.5 and 8.0. The broadest reasonable interpretation of this claim would include fibers which have the claimed aspect ratio, which by definition would mean that the fibers have a “flattened” cross section. In other words, the term “flattened” is defined by the aspect ratio of the fiber and is not limited to fibers with a constant thickness as produced by a completely flat fiber. Therefore, the diamond shape meets the aspect ratio limitations recited in the claims and the rejection is maintained.

Further, with respect to the cover factor and permeability of the fabric taught by Fastenau et al. the applicant argues that these features would not necessarily be inherent to the fabric (response, page 9). However, it is noted that the rejection does not argue that the cover factor is inherent. Instead the previous rejection argues that it would have been obvious to one of ordinary skill in the art to optimize the cover factor of the air bag fabric. And therefore, as a result, the permeability of the woven fabric which is a direct result of the weave structure, would be inherent to the air bag fabric produced by Fastenau et al. Therefore, since the rejection did not maintain that the cover factor was inherent, the applicant arguments do not overcome the rejection.

13. The Applicant argues that the fabric produced by JP 07-252740 A would not inherently have the claimed permeability as set forth in the disclosure (response, pages 10 – 11). However, the rejection is based on the fact that it would have been obvious to one of ordinary skill in the

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art to optimize the cover factor. The rejection does not argue that the unmodified fabric taught by JP 07-252740 A would inherently have the claimed properties because it is a 103 rejection based on obviousness. Therefore, the applicant must show that the fabric taught by JP 07-252740 A when modified to have the claimed cover factor would not inherently have the claimed air permeability to overcome the inherency part of the rejection. Thus, the example in the disclosure is not commensurate in scope with the rejection and is not sufficient to overcome the rejection.

Further, with regards to the obviousness of modifying the cover factor of an air bag fabric, it is well known in the air bag fabric art that the permeability of the air bag fabric is related to the cover factor and weave structure of the woven fabric. And further, the air bag fabric requires a small range of permeability since the air bag fabrics are required to expand at a rate fast enough to protect a passenger during an automobile accident, without expanding too quickly that the air bag itself injures that passenger. Thus, it would be obvious to one of ordinary skill in the air bag art to optimize the cover factor of the air bag fabric by optimizing the cover factor of the fabric.

Additionally, with respect to the fiber shape, it is noted that the claim fiber is only limited by the aspect ratio of the fiber as set forth above. Therefore, even though the fiber is not the exact same shape as the applicant's fiber, the fiber shape taught by the prior art reads on the claimed fiber shape. Thus, the rejection is maintained.

14. Finally, the Applicant argues that the fiber shape taught by Aneja does not read on the claimed "flat" fiber (response, page 12). As set forth above, the claim does not require that the fiber is a perfectly flat fiber, but requires that the fiber has a certain aspect ratio. Since Aneja



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teaches the claimed aspect ratio then Aneja reads on the claimed fiber structure. Further, the recitation in claim 7 that the yarns are for use in air bag fabrics is considered to be intended use and is not given any patentable weight at this time. Therefore, the rejection is maintained.

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

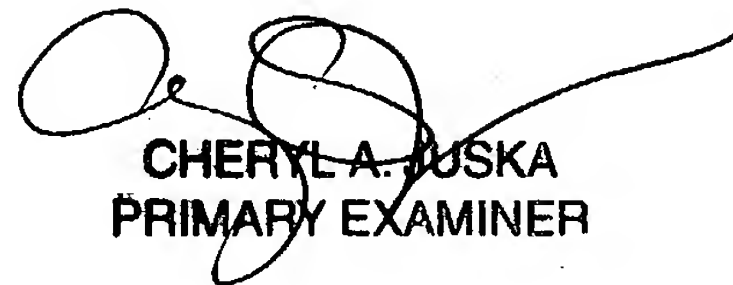
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (571) 272-1472. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jenna-Leigh Befumo  
June 14, 2004



CHERYL A. JUSKA  
PRIMARY EXAMINER